

24 CHANNEL UNIT HARD UNIT DISC UNIT

| | | | | |
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24.1 CHHD-IDENTIFICATIONS

Type- Number: PTS 6886, P825-041 (BIGD2)

Testprogram: TIGD2C (for HDU)
TIGD2S (for CDU)

Channel: DMA OKI 3B16, OKO 3A16

Devices: PTS 6961 HDU, 16 + 16M (CDC 9448/32M)
PTS 6962 HDU, 16 + 80M (CDC 9448/96M)
PTS 6877 CDU, 80M (CDC 9762)

Cartridge HDU: CDC 91204
Disk pack CDU: CDC 9877

Power consumption +5V 4.5A
-5V 0.8A

24.2 INSTALLATION DETAILS

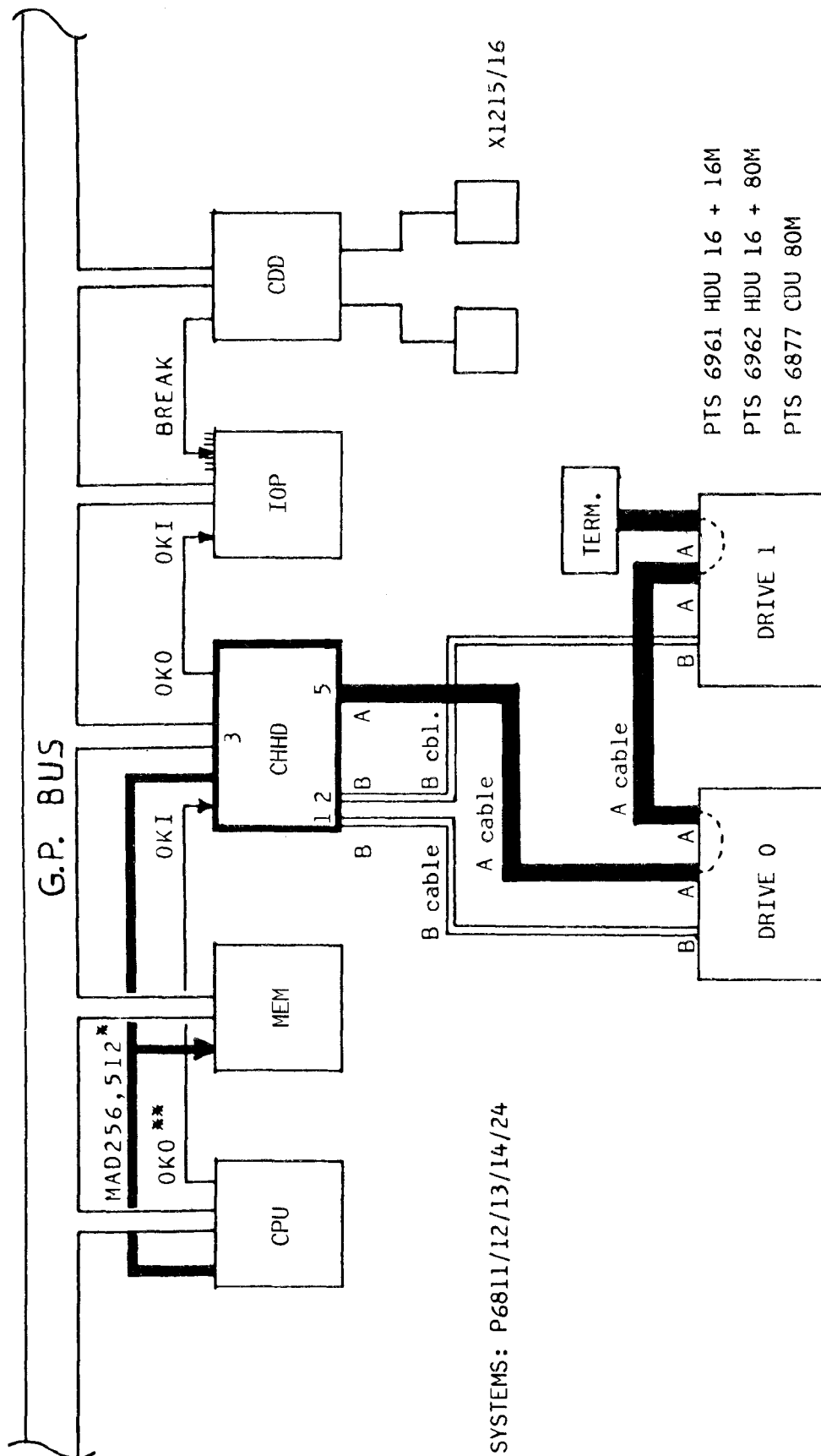


Figure 24.1 SYSTEM OVERVIEW WITH CHHD

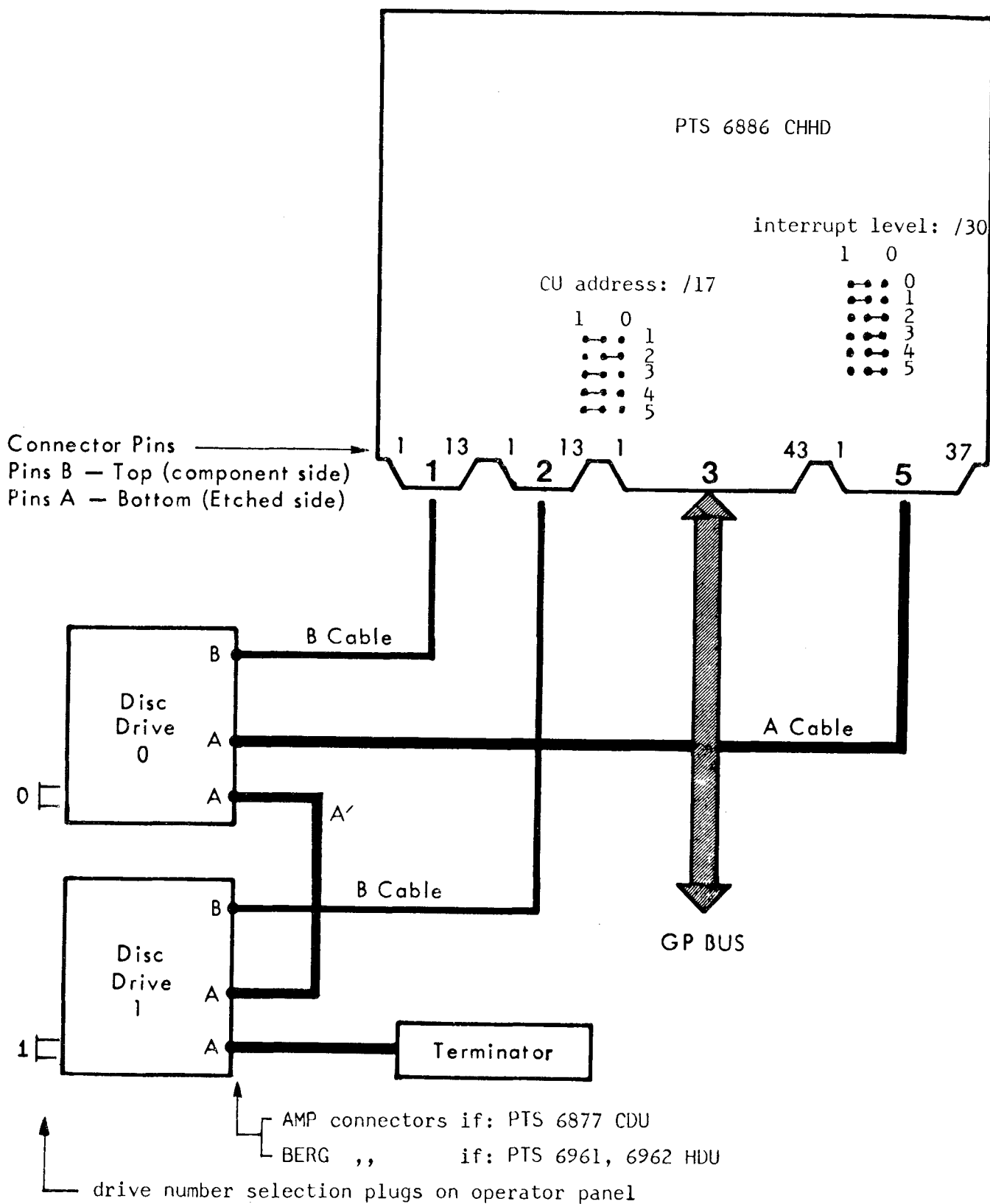


Figure 24.2 STRAPSETTING AND INTERFACE CONNECTORS

24.3 INTERFACE CONNECTIONS

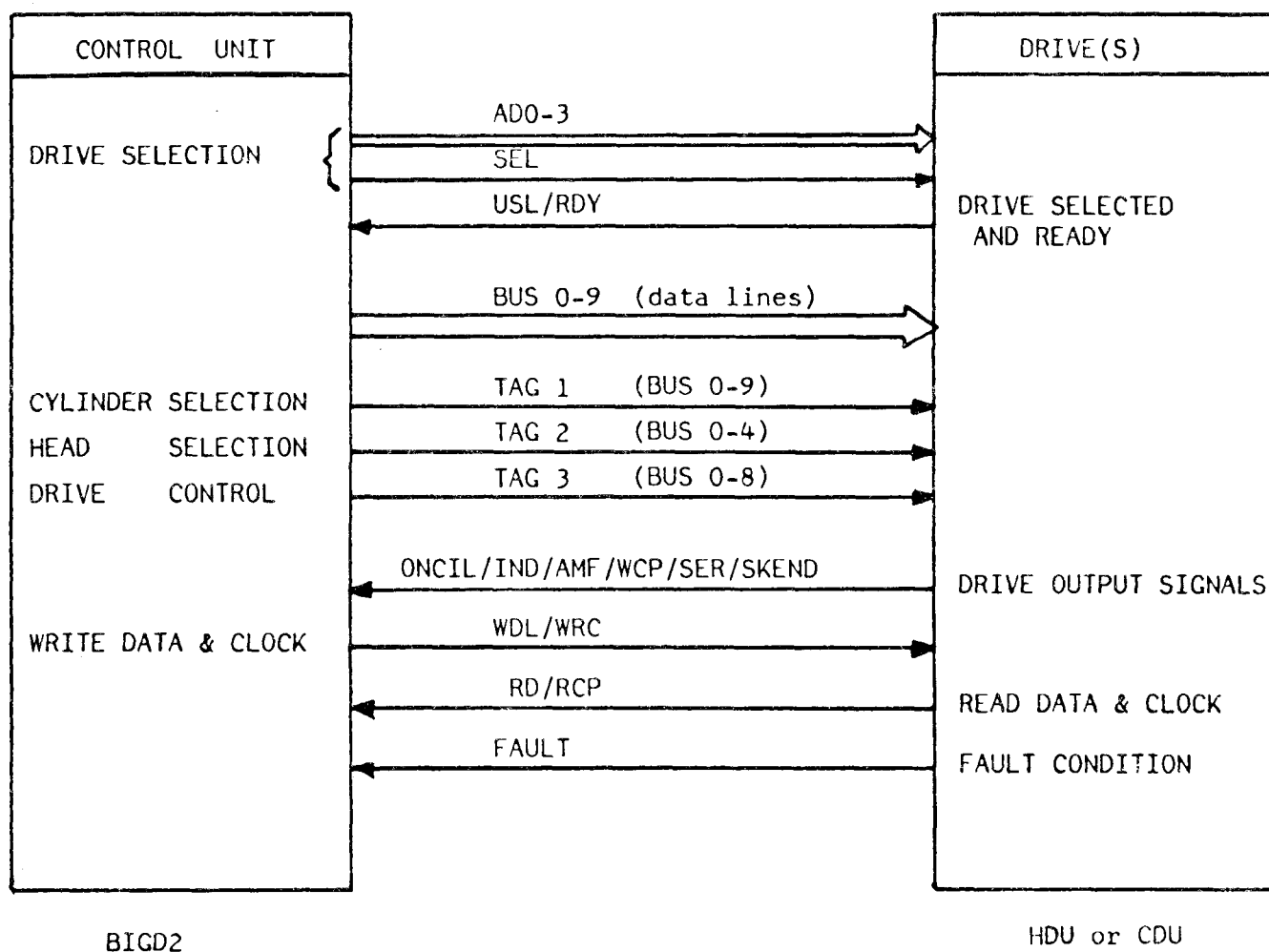


Figure 24.3 INTERFACE SIGNALS CU - DRIVES

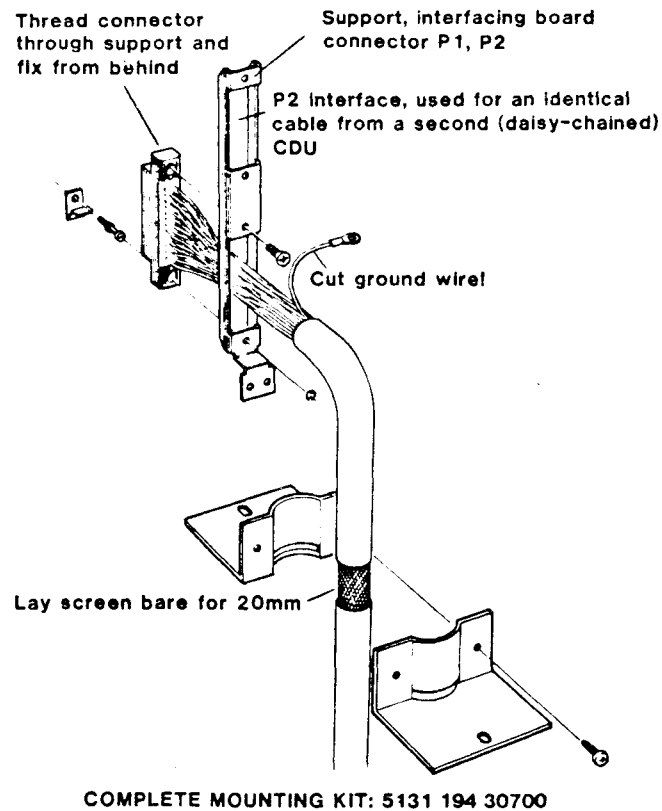


Figure 24.4 ENTRY KIT FOR B-CABLE FROM CDU 6877

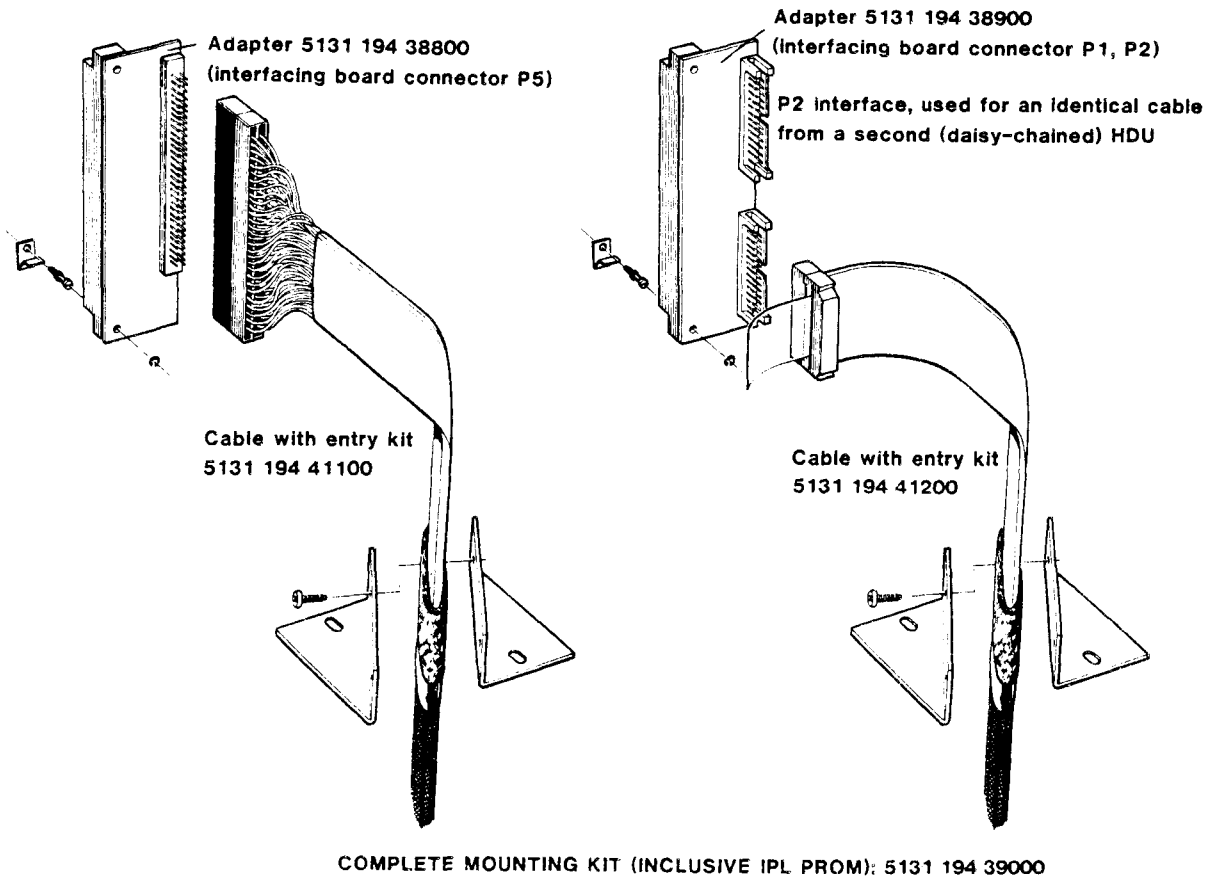


Figure 24.5 ENTRY KITS FOR CABLES FROM HDU 6981/62

| Signal | Con. 5 | AMP Con. | Device Name, Remarks | BERG |
|--|------------|----------|----------------------------------|--------|
| A Cable Output Signals | | | | |
| SEL, N | A37, B37 | 25, 22 | UNIT SELECT, Disc Selection | 52, 22 |
| TAG1, N | A12, B12 | 49, 46 | Cylinder Selection | 31, 1 |
| TAG2, N | A13, B13 | 51, 48 | Head Selection | 32, 2 |
| TAG3, N | A25, B25 | 55, 52 | Control Selection | 33, 3 |
| BUS0, N | A8, B8 | 26, 23 | Bit 0-9, Data Lines | 34, 4 |
| BUS1, N | A9, B9 | 27, 24 | | 35, 5 |
| BUS2, N | A10, B10 | 31, 28 | | 36, 6 |
| BUS3, N | A11, B11 | 32, 29 | | 37, 7 |
| BUS4, N | A31, B31 | 33, 30 | | 38, 8 |
| BUS5, N | A32, B32 | 37, 34 | | 39, 9 |
| BUS6, N | A33, B33 | 38, 35 | | 40, 10 |
| BUS7, N | A34, B34 | 39, 36 | | 41, 11 |
| BUS8, N | A35, B35 | 43, 40 | | 42, 12 |
| BUS9, N | A36, B36 | 44, 41 | | 43, 13 |
| AD0, N | A7, B7 | 4, 1 | UNIT SELECT 0-3, Disc Address | 53, 23 |
| AD1, N | A28, B28 | 5, 2 | | 54, 24 |
| AD2, N | A29, B29 | 7, 3 | | 56, 26 |
| AD3, N | A30, B30 | 12, 8 | | 57, 27 |
| OCD, N | A6, B6 | 20, 16 | Open Cable Detector | 44, 14 |
| A Cable Input Signals | | | | |
| IND, N | A3, B3 | 13, 10 | INDEX Pulse | 48, 18 |
| SEC, N | A27, B27 | 77, 74 | Not Used (grounded) | 55, 25 |
| SER, N | A5, B5 | 78, 75 | SEEK ERROR | 46, 16 |
| ONCIL, N | A1, B1 | 18, 15 | ON CYLINDER | 47, 17 |
| RDY, N | A4, B4 | 21, 17 | UNIT READY | 49, 19 |
| AMF, N | A2, B2 | 45, 42 | ADDRESS MARK FOUND | 50, 20 |
| FAULT, N | A26, B26 | 14, 11 | Not Used (grounded) | 45, 15 |
| INHA | A14 B14 | | Strap | |
| B Cable Output Signals (1 set for each disc) disc0 = con.1 disc1 = con.2 | | | | |
| WDL, N | B1, B2 | B, A | Write Data Line (bit serial) | 20, 8 |
| Ground | B5 | D | | 7 |
| WRC, N | A11, A12 | J, H | Write Clock | 19, 6 |
| Ground | B11 | E | | 18 |
| B Cable Input Signals (1 set for each disc) | | | | |
| RCP, N | A1, A2 | X, W | Read Clock Pulse | 17, 5 |
| Ground | B3 | Y | | 4 |
| RD, N | A3, A4 | V, U | Read Data (bit serial from disc) | 16, 3 |
| Ground | B4 | T | | 15 |
| WCP, N | A9, A10 | N, M | SERVO CLOCK, Write Clock Pulse | 14, 2 |
| Ground | B10 | K | | 1 |
| SKEND, N | A5, A6 | CC, AA | Seek End | 23, 10 |
| USL, N | A7, A8 | BB, DD | Unit Selected | 9, 22 |
| | | | | 21 |
| INH8 | B6 B7 | | Strap | |

Conversion cable A 51111996149.

,, ,, B ,, 6148.

Table 24.1 CU - DEVICE INTERFACE

24.4 HARDWARE - SOFTWARE INTERFACE DETAILS

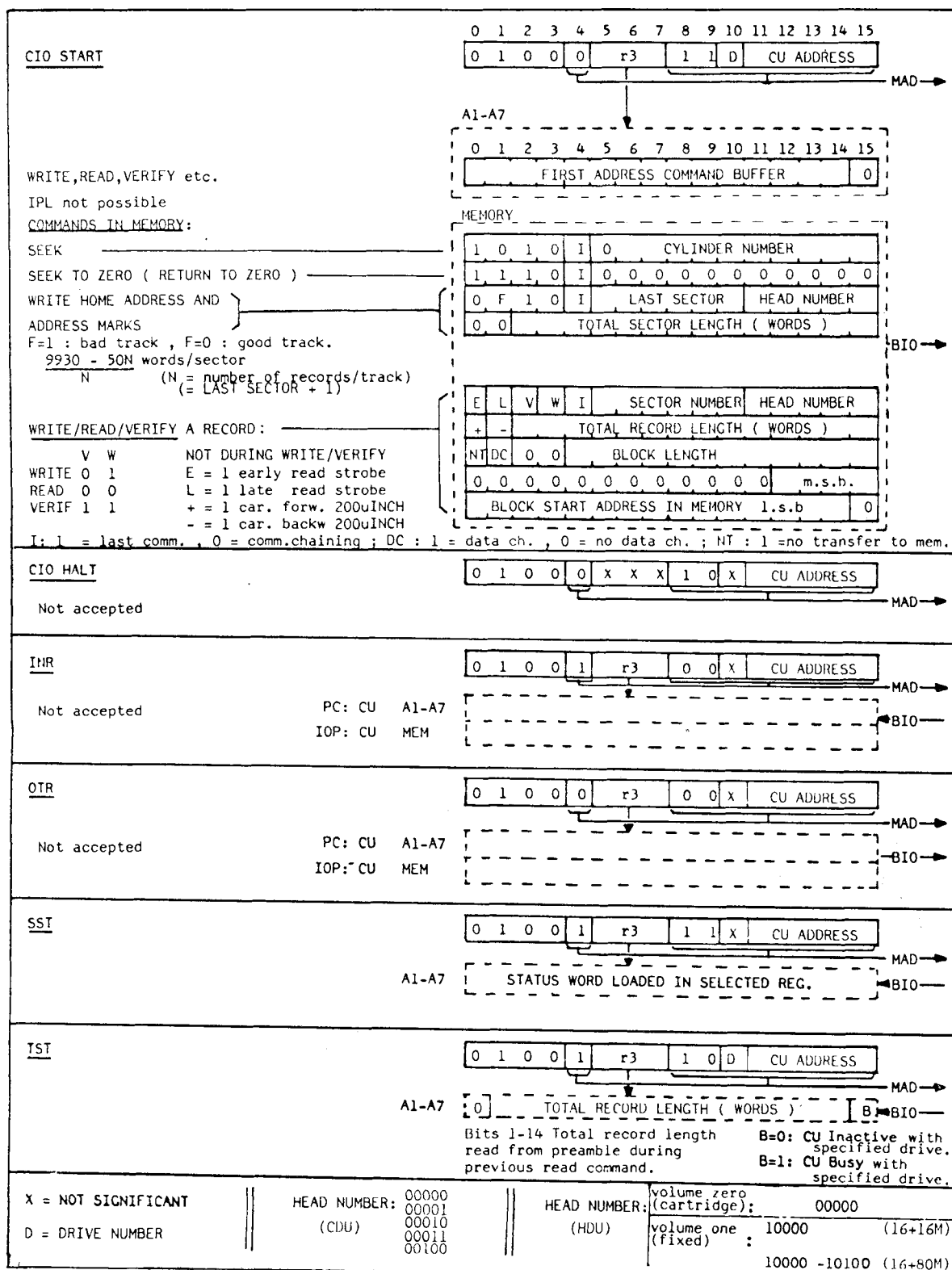
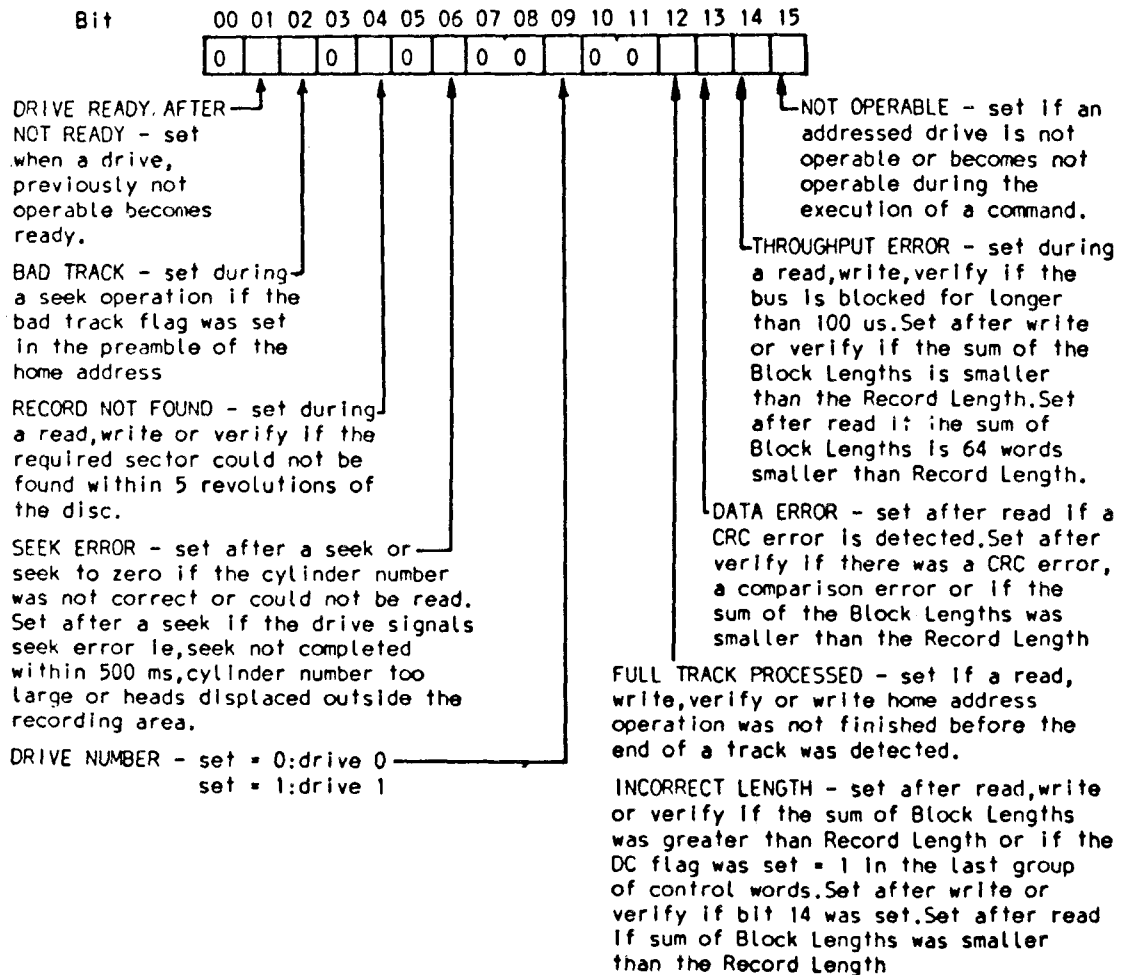


Figure 24.6 INSTRUCTION-/COMMAND-WORD FORMATS

24.4.1 STATUS WORD

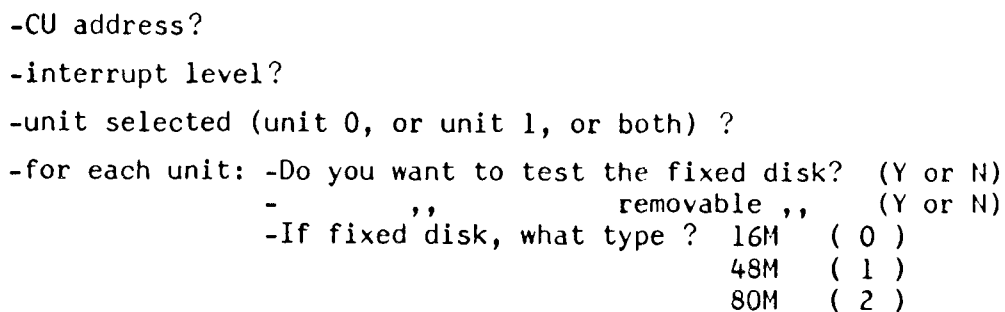


24-10

TIGD2C

TC - Field Service Manual

- 4) program will ask for the following parameters after modification of the registers or after depressing SOP switch 9:



error stop: /5F0 is simulated on SOP

```
interrupts return:    /700 is simulated on S0P
```

information stop: /5E0 is simulated on S0P

8208

- 1) disk drive loaded with a scratch pack must be ready.
IPL
program simulates stop at /700 (SOP indicators 2,3,4 on).
- 2) switch on RTC
- 3) press SOP switch 10 if the registers A8,9,10 have to be modified.

A8:

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|

int.levelCU address
Preset /8016
CU addr. :/16
int-level: /20

A9:

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|

Preset: /8000

drive 0 1)

drive 1 2)

No.cylind.drive 0 1)

No.heads drive 0 2)

No.cylind.drive 1 1)

No heads drive 1 2)

Clear stop on information

Clear edition

Clear stop on programm

Clear stop on error

One shot

Note 1): Bit 2,4: 0= 411 cylinders, 40Mb/150Mb

1= 823 cylinders, 80Mb/300Mb

Note 2): Bit 3,5: 0= 5 heads, 40Mb/80Mb

1= 19 heads, 150Mb/300Mb

A10:

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| o | s | s | s | s | s | s | s | s | o | o | o | o | s | s | o |

Preset: /7F06

s: standard setting
o: optional

Checks to be executed

- 4) program starts after modification of the registers
or after depressing SOP switch 9.
Error stop: /5F0 is simulated on SOP.

Interrupts return: /700 is simulated on SOP.

Information stop: /5E0 is simulated on SOP.

For more information, see detailed description of test-program.

24.6 SHORT ROUTINES

```

DATE 82-08-03      IDENT  BIGD1S

0000      IDENT  BIGD1S
0001      *DATE: 820803 FOR PTS
0002
0003      *      SMALL PROGRAM FOR WRITE,SEEK,WRITE HOME ADDR. AND VERIFY
0004
0005      *      A1      START ADDRESS COMMAND BUFFER, PRESET FOR SEEK
0006      *      DATA BUFFER START ADDRESS IS /0100
0007
0008      AORG      /80
0009 0080 FFFF      DATA      /FFFF
0010 0082 0000      DATA      0
0011 0084 0194      LDK      A1,/94      COMMAND BUFFER FOR SEEK
0012 0086 207F      START  HLT      AFTER RUN CHECK STATUS IN REG A4
0013 0088 20BF      INH
0014 008A 41D7      CIO      A1,1,/17      START CONTROLLER
0015 008C 5C04      RB(4)     *-2
0016 008E 4CD7      SST      A4,/17      GET STATUS
0017 0090 5C04      RB(4)     *-2
0018 0092 5F0E      RB      START
0019
0020      * COMMAND BUFFER
0021
0022 0094 A000      SEEK      DATA      /A000      SEEK TO CYLINDER 0
0023 0096 A850      DATA      /A850      SEEK TO CYLINDER 80
0024 0098 A000      WHAWVER DATA      /A000      SEEK CYL. 0
0025 009A 27E0      DATA      /27E0      WRITE HOME ADDRESSES 64 SECTORS
0026 009C 0040      DATA      /0040
0027 009E 1000      DATA      /1000      WRITE A SECTOR
0028 00A0 0040 0040 DATA      /0040,/0040
0029 00A4 0000 0100 DATA      /0000,/0100      MEMORY BUFFER
0030 00A8 3800      DATA      /3800      VERIFY WRITTEN SECTOR
0031 00AA 0040 0040 DATA      /0040,/0040,/0000,/0100
0032 00AE 0000 0100
0033      END      START

```

SYMBOL TABLE

```

SEEK      0094 A      START  0086 A      WHAWVE  0098 A
ASS.ERR.      0000
:EOF
PROG ELAPSED TIME: 00H-00M-00S-000MS-

```

```

DATE 82-08-03      IDENT  BIGD2

0000      IDENT  BIGD2
0001      *DATE: 820505 FOR PTS
0002
0003      * SMALL PROGRAM TO PREMARK SURFACE 0
0004      * WITH 64 SECTORS PER TRACK
0005      AORG      /80
0006 0080 FFFF 0000 DATA      /FFFF,0
0007 0084 207F      HLT
0008 0086 20BF      START  INH
0009 0088 8120 00AC LDKL      A1,C0BUF      COMMAND BUFFER ADDRESS
0010 008C 41D7      CIO      CIO      A1,1,/17
0011 008E 4CD7      SST      A4,/17      GET STATUS
0012 0090 5C04      RB(4)     *-2
0013 0092 9041 00AC IM      C0BUF      NEXT CYL.
0014 0096 8340 00AC LD      A3,C0BUF
0015 009A EB20 A336 CWK      A3,/A336
0016 009E 5D14      RB(5)     CIO
0017 00A0 207F      HLT
0018 00A2 8320 A000 AGAIN  LDKL      A3,/A000
0019 00A6 8341 00AC ST      A3,C0BUF      REPAIR COMMAND
0020 00AA 5F26      RB      START
0021
0022      * COMMAND BUFFER
0023
0024 00AC A000 2FE0 C0BUF DATA      /A000,/2FE0,/0040      SEEK,WHAW FOR 64 SECTORS
0025 00B0 0040
0026      END      START

```

SYMBOL TABLE

```

AGAIN  00A2 A      CIO      008C A      C0BUF  00AC A      START  0086 A
ASS.ERR.      0000
:EOF
PROG ELAPSED TIME: 00H-00M-00S-000MS-

```

```

0000 IDENT BIGD4N
0001 *DATE: 820803 FOR PTS
0002 * PROGRAM FOR HEAD ADJUSTMENT FOR 80M DISC
0003 * CONNECTED TO BIGD1 CU OR BIGD2 CU
0004
0005
0006 - OPERATING BIGD4N ADJUSTMENT PROGRAM
0007 - LOAD PROGRAM FROM CASSETTE, DISC OR FLEXIBLE DISC
0008 OR WITH EFP OR CFP
0009
0010 * A AFTER LOADING SOP DISPLAY /7FF (ALL LAMPS LIT
0011 * -DEPRESS A SOP-SWITCH
0012 * DISPLAY ON SOP /FF AND SEEKING FROM CYL 230-
0013 * 235 FOR ABOUT 30 SEC.
0014 * -SOP DISPLAYS /004
0015 * HEADS AT CYL 4 FOR SERVO MEASUREMENT
0016 * -AFTER MEASURING OPERATE LOCAL/REMOTE
0017 * SWITCH ON CARD A05 IN DISC DRIVE(SW2)
0018 * -SOP DISPLAYS /005
0019 * HEADS ON CYL 5 FOR SERVO MEASURING
0020 * -AFTER MEASURING OPERATE SW2 ON A05
0021 * B -SOP DISPLAYS /03E
0022 * -BY DEPRESSING OF A SOP SWITCH WITH LED LIT ABOVE
0023 * A HEAD IS SELECTED FOR ADJUSTMENT OR CHECKING
0024 * SOP SW 6,7,8,9,0 IS HEAD 4,3,2,1,0
0025 * DEPRESSING AN OTHER SOP SWITCH RESULTS IN A STEP
0026 * TO PROGRAM PART C
0027 * EXAMPLE:
0028 * -DEPRESS SOP SW 8
0029 * SOP DISPLAYS /A2 (ADJUST,CHECK AND FIX HEAD 2) HEADS ARE AT
0030 * CYL 4
0031 * -OPERATE SW2 ON A05
0032 * - SOP DISPLAYS /03E GO BACK TO A FOR SELECTING
0033 * OTHER HEAD OR PART C
0034
0035 * C -SOP DISPLAYS /2FF
0036 * CONTINUES SEEK IS DONE AS IN A
0037 * -SOP DISPLAYS /3E
0038 * HEAD SELECTION IS DONE AS IN B BUT ONLY
0039 * FOR CHECKING ADJUSTMENT
0040 * EXAMPLE:
0041 * -DEPRESS SOP SW 8 FOR HEAD 2
0042 * - SOP DISPLAYS /2C2
0043 * HEAD AT CYL 245 AND HEAD 2 CAN BE CHECKED
0044 * -OPERATE SW2 ON A05
0045 * -SOP DISPLAYS /03E FOR SELECTION OF AN OTHER
0046 * HEAD
0047 * -IF AN OTHER SOP SWITCH(WITH NO LED LIT ABOVE)
0048 * IS DEPRESSED PROGRAM RESTARTS AND
0049 * SOP DISPLAYS /7FF GOTO A
0050
0051
0052 0000 RES /40
0053 EJECT
0054 0080 FFFF 0000 DATA /FFFF,0
0055 0084 20BF START INH NO INTERRUPTS
0056 0086 86A0 A804 LDKL A14,/A804 SEEK TO CYL 4
0057 008A 86C1 0170 R ST A14,SEK245 CHANGE TO SEEK CYL 4
0058 008E 0500 LDK A5,0 CLEAR RETRY FLAG
0059 0090 41EE CIO A1,1,/2E START SOP
0060 0092 8320 07FF LDKL A3,/7FF /7FF ON SOP
0061 0096 432E DTR A3,0,/2E
0062 0098 4A2E INR A2,0,/2E READ SOP SW
0063 009A 5C04 RB(NA) *-2
0064 009C 03FF LDK A3,/FF DISP FIRST SEEKING
0065 009E 86A0 015C R LDKL A14,EOS STACKPOINTER
0066 00A2 0700 LDK A7,0 FLAG FIRST TIME
0067 00A4 EQU *
0068 00A4 80A0 03FF LDKL A8,/3FF FOR 30 SECONDS SEEK
0069 00AB 85A0 0130 R LDKL A13,CIOSST SUBROUTINE ADDRESS
0070 * CONTINUOUS SEEK FROM 230 TO 235
0071
0072
0073 00AC 8120 015E R SEEK LDKL A1,CSEEK COMMAND BUFFER ADDRESS
0074 00B0 F697 CNT CFR A14,A13 SEEK FROM 230 TO 235
0075 00B2 1102 ADK A1,2 COMMAND BUFFER ADDRESS
0076 00B4 F697 CFR A14,A13 SEEK TO 235
0077 00B6 98A0 0001 SUKL A8,1 TIME OVER?
0078 00BA 5910 RB(P) SEEK
0079 00BC 871C LDR A7,A7 IS IT THE FIRST TIME?
0080 00BE 5120 RF(P) SK245
0081 * SEEK TO CYLINDER 4
0082 00C0 8120 0162 R LDKL A1,SEEK4 COMMAND BUFFER ADDRESS
0083 00C4 0304 LDK A3,4 DISPLAY CIL 4
0084 00C6 F697 CFR A14,A13 SEEK TO CYL 4
0085 00C8 0300 LDK A3,0 SOP DISPL
0086 00CA 8120 0172 R LDKL A1,SEEK0
0087 00CE F697 CFR A14,A13 PERFORM SEEK TO ZERO
0088 AFTER MEASURING TO CONTINUE OPERATE SW2
0089 * SEEK TO CYLINDER 5
0090 00D0 0305 LDK A3,5 CYL 5

```

| | | | |
|-----------------------|---------|-------------------------------|---|
| 0091 00D2 8120 0164 R | LDKL | A1,SEEK5 | COMMAND BUFFER ADDRESS |
| 0092 00D6 F697 | CFR | A14,A13 | SEEK TO CYL 5 |
| 0093 00DB 0300 | LDK | A3,0 | SOP DISPL |
| 0094 00DA 8120 0172 R | LDKL | A1,SEEK0 | |
| 0095 00DE F697 | CFR | A14,A13 | PERFORM SEEK TO ZERO |
| 0096 | | | AFTER MEASURING TO CONTINUE OPERATE SW2 |
| 0097 | * | SEEK TO CYLINDER 4 OR 245 FOR | THE SEVERAL HEADS |
| 0098 | | | |
| 0099 00E0 033E | SK245 | LDK | A3,/3E |
| 0100 00E2 432E | | QTR | A3,0,/2E |
| 0101 00E4 4A2E | | INR | A2,0,/2E |
| 0102 00E6 5C04 | | RB(NA) | *-2 |
| 0103 00EB 3AAC | | SRN | A2,A3 |
| 0104 00EA EB20 0004 | | CHK | A3,4 |
| 0105 00EE 512A | | RF(G) | CHECK |
| 0106 00F0 E341 0167 R | | SC | A3,HSEL+1 |
| 0107 00F4 B320 02C0 | | XRKL | A3,/2C0 |
| 0108 00FB 871C | NEXTH | LDR | A7,A7 |
| 0109 00FA 5404 | | RF(NZ) | NEXT |
| 0110 00FC B320 0260 | | XRKL | A3,/260 |
| 0111 0100 8120 0172 R | NEXT | LDKL | A1,SEEK0 |
| 0112 0104 860C | | LDR | A6,A3 |
| 0113 0106 0300 | | LDK | A3,0 |
| 0114 0108 F697 | | CFR | A14,A13 |
| 0115 010A 8120 0166 R | | LDKL | A1,HSEL |
| 0116 010E F697 | | CFR | A14,A13 |
| 0117 0110 8318 | | LDR | A3,A6 |
| 0118 0112 8120 0170 R | | LDKL | A1,SEK245 |
| 0119 0116 F697 | | CFR | A14,A13 |
| 0120 | * | | AFTER ADJUSTING THE HEAD |
| 0121 | | | |
| 0122 0118 5F3A | | RB | SK245 |
| 0123 011A 011A | CHECK | EQU | * |
| 0124 011A 1701 | | ADK | A7,1 |
| 0125 011C EF20 0002 | | CHK | A7,2 |
| 0126 0120 589E | | RB(E) | START |
| 0127 0122 84A0 A8F5 | | LDKL | A12,/A8F5 |
| 0128 0126 84C1 0170 R | | ST | A12,SEK245 |
| 0129 012A 8320 02FF | | LDKL | A3,/2FF |
| 0130 012E 5F8C | | RB | SECOND |
| 0131 | * | | FOR CONTUNUOUS SEEK AGAIN |
| 0132 | * | | |
| 0133 | | SUBROUTINE | |
| 0134 0130 41D7 | CIOSSST | CIO | A1,1,/17 |
| 0135 0132 432E | | QTR | A3,0,/2E |
| 0136 0134 4CD7 | | SST | A4,/17 |
| 0137 0136 5C04 | | RB(NA) | *-2 |
| 0138 0138 2401 | | ANK | A4,1 |
| 0139 013A 5104 | | RF(P) | CHRETRY |
| 0140 013C 0500 | | LDK | A5,0 |
| 0141 013E F03A | | RTN | A14 |
| 0142 0140 8514 | CHRETRY | LDR | A5,A5 |
| 0143 0142 5C14 | | RB(NZ) | CIOSSST |
| 0144 0144 0501 | NORETRY | LDK | A5,1 |
| 0145 0146 02FF | | LDK | A2,/FF |
| 0146 0148 1A01 | | SUK | A2,1 |
| 0147 014A 5C04 | | RB(NZ) | *-2 |
| 0148 014C F03A | | RTN | A14 |
| 0149 | * | STACK AREA | |
| 0150 | | | |
| 0151 014E | | RES | 7 |
| 0152 015C | EDS | RES | 1 |
| 0153 | * | COMMAND BUFFERS | |
| 0154 | | | |
| 0155 015E A8E6 | CSEEK | DATA | /A8E6 |
| 0156 0160 A8EB | | DATA | /A8EB |
| 0157 | | | |
| 0158 0162 A804 | SEEK4 | DATA | /A804 |
| 0159 | | | |
| 0160 0164 A805 | SEEK5 | DATA | /A805 |
| 0161 | | | |
| 0162 0166 | HSEL | EQU | * |
| 0163 0166 0800 | | DATA | /0800 |
| 0164 0168 0040 0040 | | DATA | /0040,/0040 |
| 0165 016C 0000 0000 | BUFL | DATA | 0,0 |
| 0166 0170 A8F5 | SEK245 | DATA | /A8F5 |
| 0167 | | | |
| 0168 0172 E800 | SEEK0 | DATA | /E800 |
| 0169 | | | RETURN TO CYL 0 |
| 0170 | | END | START |

SYMBOL TABLE

| | | | | | | | | | | | |
|--------|------|---|-------|------|---|--------|------|---|---------|------|---|
| BUFL | 016C | R | CHECK | 011A | R | CHRETR | 0140 | R | CIOSSST | 0130 | R |
| CONT | 00B0 | R | CSEEK | 015E | R | EQS | 015C | R | HSEL | 0166 | R |
| NEXT | 0100 | R | NEXTH | 00FB | R | NORETR | 0144 | R | SECOND | 00A4 | R |
| SEEK | 00AC | R | SEEK0 | 0172 | R | SEEK4 | 0162 | R | SEEK5 | 0164 | R |
| SEK245 | 0170 | R | SK245 | 00E0 | R | START | 00B4 | R | | | |

ASS.ERR. 0000

:EOF

PROG ELAPSED TIME: 00H-00M-00S-000MS-

```

00000 IDENT HOUSER
00001 *DATE 820727 FOR PTS HDU TO CHECK SERVO HEADS
00002
00003 *AFTER IPL ALL SOP INDICATORS ON
00004 *DEPRESS A SOP SWITCH
00005 *PROGRAM IS STARTED
00006 *SEEK ON VOLUME ZERO TO CYL. ZERO
00007 *READ ON VOLUME ONE (VOLUME CHANGE IS MADE)
00008 *SEEK ON VOLUME ONE TO NEXT CYL
00009 *READ ON VOLUME ZERO (VOLUME CHANGE IS MADE)
00010 *AND SO ON TILL CYL /336 IS REACHED. THEN START AGAIN
00011 *CYLINDER NUMBERS ARE DISPLAYED ON SOP
00012 *IF DRIVE NOT OPERABLE OR SEEKERROR (SER,NOP) STATUS TO SOP
00013 *PROGRAM IS STOPPED OR RESTARTED BY PRESSING A SOP SWITCH
00014 0000 RES /40
00015 EJECT
00016 0080 FFFF DATA /FFFF.0
00017 0082 0000
00018 0084 20BF START INH
00019 0086 41EE CIO A1.1./2E START SOP
00020 0088 8320 LDCL A3./7FF
00021 008A 07FF
00022 008C 432E OTR A3.0./2E /7FF ON SOP
00023 008E 85A0 LDCL A13.CIOSST START ADDRESS SUBROUTINE
00024 0090 00CE R
00025 0092 0610 LDCL A6.16 VOLUME 0/1
00026 0094 80A0 LDCL A8./A836 SEEK TO LAST CYL (822)
00027 0096 A836
00028 0098 4A2E RESTART INR A2.0./2E
00029 009A 5C04 RB(NA) *-2 WAIT TILL SOP SWITCH IS PRESSED
00030
00031 * RETURN TO VOLUME 0, CYLINDER 0
00032 LDCL A1.SEEKZ RETURN TO CYL/VOL ZERO
00033 009C 8120 R
00034 009E 0102 LDCL A14.E0S STACK POINTER
00035 00A0 86A0 R
00036 00A2 00F6 R
00037 00A4 F697 CFR A14.A13 EXECUTE RTZ SEEK
00038
00039 * SEEK OPERATION
00040 AGAIN LDCL A4./A800 SEEK TO CYLINDER 0
00041 00A6 8420
00042 00A8 A800
00043 00AA 8441 ST A4.SEEK
00044 00AC 0104 R
00045 00AE 8120 NEXT LDCL A1.SEEK
00046 00B0 0104 R
00047 00B2 F697 CFR A14.A13 EXECUTE SEEK
00048
00049 * VOLUME CHANGE
00050 LDCL A1.READ
00051 00B4 8120 R
00052 00B6 00F8 R
00053 00B8 B641 XRS A6.READ READ ON OTHER VOLUME
00054 00BA 00F8 R
00055 00BC F697 CFR A14.A13 EXECUTE READ (VOLUME CHANGE)
00056 00BE E8C0 CW A8.SEEK LAST CYL?
00057 00C0 0104 R
00058 00C2 581E RB(E) AGAIN RESTART OF PROGRAM
00059 00C4 9041 IM SEEK NEXT CYL
00060 00C6 0104 R
00061 00C8 8340 LD A3.SEEK NEW CYL TO DISPLAY ON SOP
00062 00CA 0104 R
00063 00CC 5F20 RB NEXT SEEK ON OTHER VOLUME TO NEXT CYL
00064
00065 * SUBROUTINE CIO, OTR (SOP), SST
00066 CIOSST CIO A1.1./17 EXECUTE SEEK/READ OPERATION
00067 00CE 4107 OTR A3.0./2E DISPLAY CYL ON SOP
00068 00D0 432E SST A5./17
00069 00D2 40D7 RB(NA) *-2
00070 00D4 5C04 ANKL A5./201 SER. NOP
00071 00D6 A520
00072 00D8 0201
00073 00DA 5106 RF(P) HALT
00074 00DC 4A2E INR A2.0./2E STOP WHEN A SOP SW IS DEPRESSED
00075 00DE 5848 RB(A) RESTART
00076 00E0 F03A RTN A14
00077
00078 * DRIVE ERROR
00079 HALT OTR A5.0./2E STATUS BITS 6, 15 TO SOP
00080 00E2 452E RB RESTART
00081 00E4 5F4E RES 8
00082 00E6 RES 1
00083 00E8
00084
00085 * DRIVE OPERATIONS
00086 READ DATA /0800
00087 00F8 0800 DATA /0040./0040
00088 00FA 0040
00089 00FC 0040 DATA /0000.8UF
00090 00FE 0000
00091 0100 0106 R
00092 0102 E800 SEEKZ DATA /E800
00093 0104 A800 SEEK DATA /A800
00094 0106 BUF RES 1
00095 END START

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